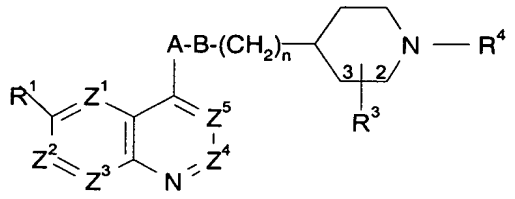
**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1 (Original). A method of treatment of bacterial infections in mammals, which method comprises the administration to a mammal in need of such treatment of an effective amount of a compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

one of $Z^1$, $Z^2$, $Z^3$, $Z^4$ and $Z^5$ is N or $CR^{1a}$ and the remainder are CH;

$R^1$ is selected from hydroxy; $(C_{1-6})$ alkoxy optionally substituted by $(C_{1-6})$alkoxy, amino, piperidyl, guanidino or amidino optionally N-substituted by one or two $(C_{1-6})$alkyl, acyl or $(C_{1-6})$alkylsulphonyl groups, $NH_2CO$, hydroxy, thiol, $(C_{1-6})$alkylthio, heterocyclylthio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or $(C_{1-6})$alkylsulphonyloxy; $(C_{1-6})$alkoxy-substituted $(C_{1-6})$alkyl; halogen; $(C_{1-6})$alkyl; $(C_{1-6})$alkylthio; trifluoromethyl; nitro; azido; acyl; acyloxy; acylthio; $(C_{1-6})$alkylsulphonyl; $(C_{1-6})$alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two $(C_{1-6})$alkyl, acyl or $(C_{1-6})$alkylsulphonyl groups, or when one of $Z^1$, $Z^2$, $Z^3$, $Z^4$ and $Z^5$ is N, $R^1$ may instead be hydrogen;

$R^{1a}$ is selected from hydrogen and the groups listed above for $R^1$;

$R^3$ is in the 2- or 3-position and is:

carboxy; $(C_{1-6})$alkoxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, $(C_{1-6})$alkyl, hydroxy$(C_{1-6})$alkyl, aminocarbonyl$(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkylsulphonyl, trifluoromethylsulphonyl, $(C_{1-6})$alkenylsulphonyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl or $(C_{2-6})$alkenylcarbonyl and optionally further substituted by $(C_{1-6})$alkyl, hydroxy$(C_{1-6})$alkyl, aminocarbonyl$(C_{1-6})$alkyl or $(C_{2-6})$alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by $R^{10}$; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by $R^{10}$; or 5-oxo-1,2,4-oxadiazol-3-yl; or

$R^3$ is in the 2- or 3-position and is $(C_{1-4})$alkyl or ethenyl substituted with any of the groups listed above for $R^3$ and 0 to 2 groups $R^{12}$ independently selected from:

thiol; halogen; $(C_{1-6})$alkylthio; trifluoromethyl; azido; $(C_{1-6})$alkoxycarbonyl; $(C_{1-6})$alkylcarbonyl; $(C_{2-6})$alkenyloxycarbonyl; $(C_{2-6})$alkenylcarbonyl; hydroxy optionally substituted by $(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl, $(C_{2-6})$alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkylcarbonyl or $(C_{2-6})$alkenylcarbonyl; amino optionally mono- or disubstituted by $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl, $(C_{2-6})$alkenylcarbonyl, $(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkylsulphonyl, $(C_{2-6})$alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkyl or $(C_{2-6})$alkenyl; aminocarbonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkyl, hydroxy$(C_{1-6})$alkyl, aminocarbonyl$(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl or $(C_{2-6})$alkenylcarbonyl and optionally further substituted by $(C_{1-6})$alkyl, hydroxy$(C_{1-6})$alkyl, aminocarbonyl$(C_{1-6})$alkyl or $(C_{2-6})$alkenyl; oxo; $(C_{1-6})$alkylsulphonyl; $(C_{2-6})$alkenylsulphonyl; or $(C_{1-6})$aminosulphonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkyl or $(C_{2-6})$alkenyl;

provided that when $R^3$ is disubstituted with hydroxy or amino and carboxy containing substituents these may optionally together form a cyclic ester or amide linkage, respectively;

and provided that $R^3$ is other than $(C_{1-4})$alkyl or ethenyl substituted by $(C_{1-6})$alkoxycarbonyl or aminocarbonyl optionally substituted by $(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl or $(C_{2-6})$alkenylcarbonyl and optionally further substituted by $(C_{1-6})$alkyl, hydroxy$(C_{1-6})$alkyl, aminocarbonyl$(C_{1-6})$alkyl or $(C_{2-6})$alkenyl and 0 to 2 groups $R^{12}$;

wherein $R^{10}$ is selected from $(C_{1-4})$alkyl; $(C_{2-4})$alkenyl; aryl; a group $R^{12}$ as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, $(C_{1-6})$alkyl, $(C_{2-6})$alkenyl, $(C_{1-6})$alkylsulphonyl, trifluoromethylsulphonyl, $(C_{1-6})$alkenylsulphonyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{2-6})$alkenyloxycarbonyl or $(C_{2-6})$alkenylcarbonyl and optionally further substituted by $(C_{1-6})$alkyl or $(C_{2-6})$alkenyl; cyano; or tetrazolyl;

$R^4$ is a group $-CH_2-R^5$ in which $R^5$ is selected from:

$(C_{3-12})$alkyl; hydroxy$(C_{3-12})$alkyl; $(C_{1-12})$alkoxy$(C_{3-12})$alkyl; $(C_{1-12})$alkanoyloxy$(C_{3-12})$alkyl; $(C_{3-6})$cycloalkyl$(C_{3-12})$alkyl; hydroxy-, $(C_{1-12})$alkoxy- or $(C_{1-12})$alkanoyloxy-$(C_{3-6})$cycloalkyl$(C_{3-12})$alkyl; cyano$(C_{3-12})$alkyl; $(C_{2-12})$alkenyl; $(C_{2-12})$alkynyl; tetrahydrofuryl; mono- or di-$(C_{1-12})$alkylamino$(C_{3-12})$alkyl; acylamino$(C_{3-12})$alkyl; $(C_{1-12})$alkyl- or acyl-aminocarbonyl$(C_{3-12})$alkyl; mono- or di- $(C_{1-12})$alkylamino(hydroxy) $(C_{3-12})$alkyl; optionally substituted phenyl$(C_{1-2})$alkyl, phenoxy$(C_{1-2})$alkyl or phenyl(hydroxy)$(C_{1-2})$alkyl; optionally substituted diphenyl$(C_{1-2})$alkyl; optionally substituted phenyl$(C_{2-3})$alkenyl; optionally substituted benzoyl or benzoylmethyl; optionally substituted heteroaryl$(C_{1-2})$alkyl;and optionally substituted heteroaroyl or heteroaroylmethyl;

n is 0, 1 or 2;

either A-B is NHC(O)NH or NHC(O)O, or

A is $NR^{11}$, O, $S(O)_x$ or $CR^6R^7$ and B is $NR^{11}$, O, $S(O)_x$ or $CR^8R^9$ where x is 0, 1 or 2 and wherein:
each of $R^6$ and $R^7$ $R^8$ and $R^9$ is independently selected from: H; thiol; $(C_{1-6})$alkylthio; halo; trifluoromethyl; azido; $(C_{1-6})$alkyl; $(C_{2-6})$alkenyl; $(C_{1-6})$alkoxycarbonyl; $(C_{1-6})$alkylcarbonyl; $(C_{2-6})$alkenyloxycarbonyl; $(C_{2-6})$alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in $R^3$; $(C_{1-6})$alkylsulphonyl; $(C_{2-6})$alkenylsulphonyl; or $(C_{1-6})$aminosulphonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkyl or $(C_{1-6})$alkenyl;
or $R^6$ and $R^8$ together represent a bond and $R^7$ and $R^9$ are as above defined;
or $R^6$ and $R^8$ together represent –O- and $R^7$ and $R^9$ are both hydrogen;
or $R^6$ and $R^7$ or $R^8$ and $R^9$ together represent oxo;

and each $R^{11}$ is independently H, trifluoromethyl, $(C_{1-6})$alkyl, $(C_{1-6})$alkenyl, $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, aminocarbonyl wherein the amino group is optionally substituted by $(C_{1-6})$alkoxycarbonyl, $(C_{1-6})$alkylcarbonyl, $(C_{1-6})$alkenyloxycarbonyl, $(C_{2-6})$alkenylcarbonyl, $(C_{1-6})$alkyl or $(C_{1-6})$alkenyl and optionally further substituted by $(C_{1-6})$alkyl or $(C_{1-6})$alkenyl;
provided that A and B cannot both be selected from $NR^{11}$, O and $S(O)_x$ and when one of A and B is CO the other is not CO, O or $S(O)_x$.

Claims 2-11. (Cancelled)

12. (Original) A pharmaceutical composition for use in the treatment of bacterial infections in mammals comprising a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

13. (Cancelled)

14 (Previously Presented). A method according to claim 1 which comprises administering a compound of formula (IA) or a pharmaceutically acceptable derivative thereof which is a compound of formula (I) as defined in claim 1 wherein $R^3$ is other than $(C_{1-6})$alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH.

15 (Previously Presented). A method according to claim 1 which comprises administering a compound in which $Z^5$ is CH or N and $Z^1$-$Z^4$ are each CH.

16 (Previously Presented). A method according to claim 1 which comprisies administering a compound in which $R^1$ is methoxy, amino- or guanidino-$(C_{3-5})$alkyloxy, guanidino$(C_{3-5})$alkyloxy, piperidyl$(C_{3-5})$alkyloxy, nitro or fluoro, and $R^{1a}$ is hydrogen.

17 (Previously Presented). A method according to claim 1 which comprisies administering a compound in which $R^3$ is in the 3-position and is $CH_2CO_2H$ or 2-oxo-oxazolidinyl.

18 (Previously Presented). A method according to claim 1 which comprisies administering a compound in which $AB(CH_2)_n$ is $(CH_2)_3$.

19 (Previously Presented). A method according to claim 1 which comprisies administering a compound in which $R^4$ is $(C_{5-10})$alkyl, unsubstituted phenyl$(C_{2-3})$alkyl or unsubstituted phenyl$(C_{3-4})$alkenyl.

20 (Previously Presented). A method according to claim 1 which comprisies administering a compound in which $Z^5$ is CH or N and $Z^1$-$Z^4$ are each CH; $R^1$ is methoxy, amino- or guanidino-$(C_{3-5})$alkyloxy, guanidino$(C_{3-5})$alkyloxy, piperidyl$(C_{3-5})$alkyloxy, nitro or fluoro, and $R^{1a}$ is hydrogen; $R^3$ is in the 3-position and is $CH_2CO_2H$ or 2-oxo-oxazolidinyl; $AB(CH_2)_n$ is $(CH_2)_3$; and $R^4$ is $(C_{5-10})$alkyl, unsubstituted phenyl$(C_{2-3})$alkyl or unsubstituted phenyl$(C_{3-4})$alkenyl.

21 (Currently Amended). A method according to claim 1 which comprisies administering a compound which is:
[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-(2-(R or S)-oxo-oxazolidin-5-yl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
[3R, 4R]-1-Heptyl-3-(2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
[3R, 4R]-1-Heptyl-3-(3-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
[3R, 4R]-1-Heptyl-3-carboxy–4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
[3R, 4R]-1-Heptyl-3-(carboxymethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;
[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
[3R, 4R]-1-Heptyl-3-(2-(*E*-)-carboxyethenyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;
N-(cis-3-(R/S)-Ethoxycarbonyl–1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;
N-(cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;
N-(cis-3-(R/S)-Aminocarbonyl–1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;
[3R, 4R]-1-Heptyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]-3-(2-(R or S)-oxo-oxazolidin-5-yl)-piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-(2-(R)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;

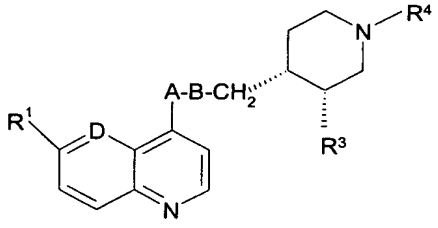
N-(cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;

cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-yl)aminocarbonyl-oxypiperidine;

cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-yl)aminocarbonyl-oxypiperidine;

a compound **of Examples** 18 **to** -36 from Table 1 **as depicted below:**;

**TABLE 1**



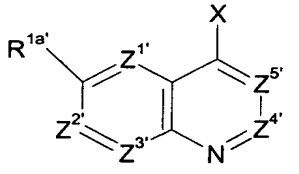

| Example | A-B | n | $R^1$ | D | $R_3$ | $R_4$ |
|---|---|---|---|---|---|---|
| 18 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2CN$ | n-heptyl |
| 19 | $CH(NH_2)CH_2$ | 1 | $CH_3O$ | C | $CH_2CN$ | n-heptyl |
| 20 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2COOH$ | 5-methylhexyl |
| 21 | $CH(N_3)CH_2$ | 1 | $CH_3O$ | C | $CH_2CN$ | n-heptyl |
| 22 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CONH_2$ | n-heptyl |
| 23 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2COOH$ | n-hexyl |
| 24 | $CO.CH_2$ | 1 | $CH_3O$ | C | $CH_2CN$ | n-heptyl |
| 25 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2CH(CH_3)COOH$ | n-heptyl |
| 26 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2COOH$ | cinnamyl |
| 27 | $CH_2CH_2$ | 1 | $CH_3O$ | C | $CH_2COOH$ | 3-phenylpropyl |
| 28 | CH(OH)CH2 | 1 | $CH_3O$ | C | $CH_2COOH$ | n-heptyl |
| 29 | $CH(NH_2)CH_2$ | 1 | $CH_3O$ | C | $CH_2COOH$ | n-heptyl |
| 30 | $CH(OH)CH_2$ | 1 | $CH_3O$ | C | CH(OH)COOH | n-heptyl |
| 31 | $CO.CH_2$ | 1 | $CH_3O$ | C | CH(OH)COOH | n-heptyl |

| | | | | | | |
|---|---|---|---|---|---|---|
| 32 | $CH_2CH(OH)$ | 1 | $CH_3O$ | C | $CH_2COOH$ | n-heptyl |
| 33 | NHCO | 1 | $CH_3O$ | N | $CH_2COOH$ | n-heptyl |
| 34 | $CH_2CH_2$ | 1 | OH | C | $CH_2COOH$ | n-heptyl |
| 35 | NHCOO | 0 | $CH_3O$ | C | $CONH_2$ | n-heptyl |
| 36 | oxirane | 1 | $CH_3O$ | C | $CH_2CN$ | n-heptyl |

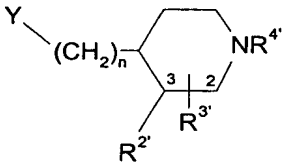
or a pharmaceutically acceptable derivative of any of the foregoing compounds.

22 (Currently Amended). A process for preparing compounds of formula (IA) as or a pharmaceutically acceptable derivative thereof, which is a compound of formula (I) as defined in claim 1, wherein $R^3$ is other than $(C_{1-6})$alkoxycarbonyl; optionally substituted aminocarbonyl, CN or $COOH$,, or a pharmaceutically acceptable ester thereof, which process comprises:

(a) reacting a compound of formula (IV) with a compound of formula (V):




(IV)




(V)

wherein $Z^1$, $Z^2$, $Z^3$, $Z^4$ and $Z^5$, m, n, $R^1$, $R^2$, $R^3$ and $R^4$ are as defined in formula (I), and X and Y may be the following combinations:

(i) X is M and Y is $CH_2CO_2R^x$

(ii) X is $CO_2R^y$ and Y is $CH_2CO_2R^x$

(iii) one of X and Y is $CH=SPh_2$ and the other is CHO

(iv) X is $CH_3$ and Y is CHO

(v) X is $CH_3$ and Y is $CO_2R^x$

(vi) X is $CH_2CO_2R^y$ and Y is $CO_2R^x$

(vii) X is $CH=PR^z{}_3$ and Y is CHO

(viii) X is CHO and Y is $CH=PR^z{}_3$

(ix) X is halogen and Y is $CH=CH_2$

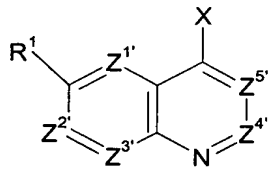
(x) one of X and Y is COW and the other is $NHR^{11'}$

(xi) one of X and Y is $(CH_2)_p$-V and the other is $(CH_2)_qNHR^{11'}$, $(CH_2)_qOH$, $(CH_2)_qSH$ or $(CH_2)_qSCOR^x$ where p+q=1

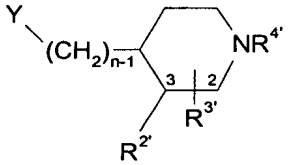
(xii) one of X and Y is CHO and the other is $NHR^{11'}$

(xiii) one of X and Y is OH and the other is $-CH=N_2$
in which V and W are leaving groups, $R^x$ and $R^y$ are $(C_{1-6})$alkyl and $R^z$ is aryl or $(C_{1-6})$alkyl, or
(xiv) X is NCO, Y is OH or $NH_2$ ;

(b) reacting a compound of formula (IV) with a compound of formula (Vb):



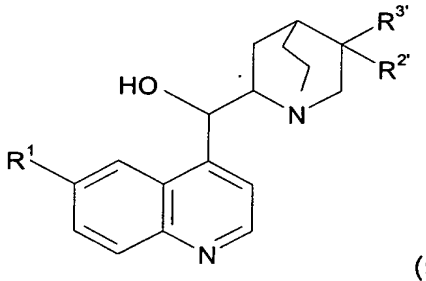
(IV)



(Vb)

wherein $Z^1$, $Z^2$, $Z^3$, $Z^4$ and $Z^5$, m, n, $R^1$, $R^2$, $R^3$ and $R^4$ are as defined in formula (I), X is $CH_2NHR^{11'}$ and Y is CHO or COW or X is $CH_2OH$ and Y is $-CH=N_2$;

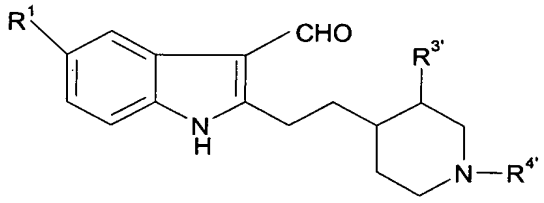
(c) rearranging a compound of formula (II):



(II)

to give a compound of formula (III) which is a compound of formula (I) where $Z^1$-$Z^5$ are CH, n is 1, A-B is $COCH_2$ and $R^2$ is H, or a compound of formula (VII) which is a compound of formula (I) where n is 1, A-B is $CHOHCH_2$ or $CH_2CHOH$ and $R^2$ is H; or

(d) photooxygenating a compound of formula (VI):



(VI)

in which $Z^{1'}$-$Z^{5'}$ are $Z^1$-$Z^5$ or groups convertible thereto, $R^{11'}$, $R^{1'}$, $R^{2'}$, $R^{3'}$ and $R^{4'}$ are $R^{11}$, $R^1$, $R^2$, $R^3$ and $R^4$ or groups convertible thereto, and thereafter optionally or as necessary converting $R^{11'}$, $R^{1'}$, $R^{2'}$, $R^{3'}$ and $R^{4'}$ to $R^{11'}$, $R^1$, $R^2$, $R^3$ and $R^4$, converting $Z^{1'}$-$Z^{5'}$ to $Z^1$-$Z^5$, converting A-B to other A-B, interconverting $R^{11}$, $R^1$, $R^2$, $R^3$ and/or $R^4$ and forming a pharmaceutically acceptable derivative thereof.

23 (Previously Presented). A pharmaceutical composition comprising a compound of formula (IA) or a pharmaceutically acceptable derivative thereof which is a compound of formula (I) as defined in claim 1 wherein $R^3$ is other than ($C_{1-6}$)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

24. (Cancelled)